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THE BEAN BAG

**A newsletter to promote communication among research scientists
concerned with the systematics of the Leguminosae/Fabaceae**

Number 27

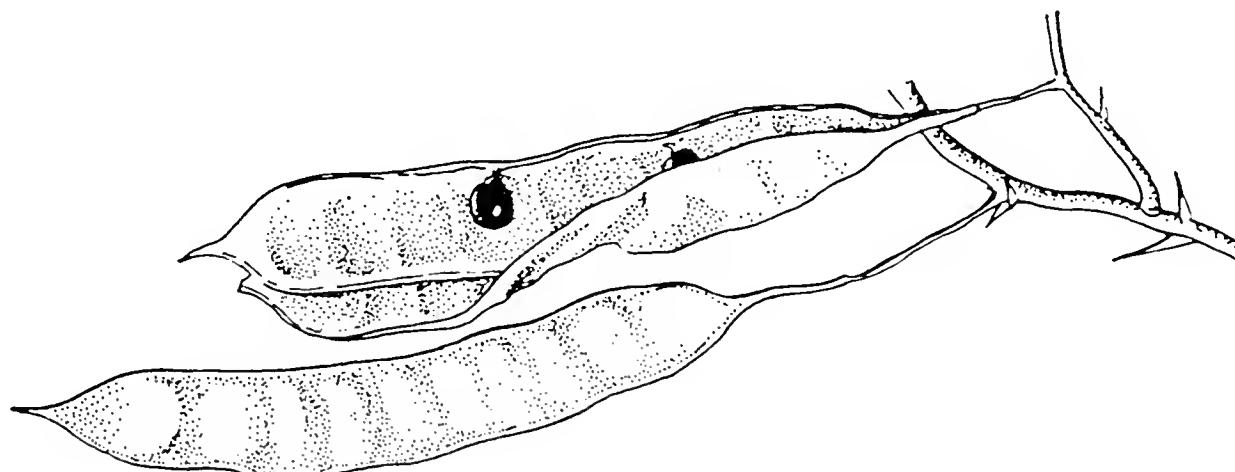
May 1988



From the Editors
Charles R. Gunn and Joseph H. Kirkbride, Jr.

The BB is designed to promote communication among research scientists concerned with legume systematics. To achieve this goal the BB is issued in May and November of each year and features five columns: From the Editors, News (meetings, major events, announcements, etc.), New Readers, Nodulation and Nitrogen Fixation (a new column), Gleanings, and Recent Legume Literature. Data in the Gleanings column are derived from questionnaire sheets which Readers complete and return. If you have news about legume systematics, send it to us for this column. The Recent Legume Literature column contains published research papers of specific interest to BB Readers. Recent is defined as one year old. We rarely will publish a citation that is more than one year old. Specific interest to BB Readers is defined as research papers of interest to a world wide group of legume systematic botanists and researchers interested in legume nodulation. We encourage Bean Bag (BB) Readers to send us notices, observations, etc.

Diacritical marks can now be placed in the BB. If such marks should be placed in your name, address, publications, etc., please let us know. We are especially interested in correcting our Directory. Thank you.



Havardia acatlensis (Benth.) Britt. & Rose

**Bean Bag address: SBM&NL, Bldg. 265, BARC-East
Beltsville, MD 20705 USA**

FOUR NEW NEWSLETTERS

Eds. note: This is a new irregular column informing our Readers of new newsletters covering legumes and others on computers and other plant families.

ILDIS Newsletter

Number 1 February 1988

This newsletter is intended to keep interested legume researchers informed about the progress and plans of the International Legume Database and Information Service (ILDIS). Published three times a year: February, May, and October. Available from: Dr. Susan Hollis, ILDIS Coordinating Centre, Biology Department, Building 44, The University, Southampton, SO9 5NH, Great Britain.

DELTA NEWSLETTER

Number 1, February 1988

To be issued twice yearly, this newsletter is directed to all botanical and zoological taxonomists using computers. DELTA (DEscriptive Language for TAXonomy) is a computer system for taxonomic descriptions and identifications of plants and animals. Dallwitz's and Pankhurst's computer packages are briefly described. Available from: Dr. R. J. Pankhurst, Taxonomic Systems, 203 Sheen Lane, London SW14 8LE, Great Britain or Dr. M. J. Dallwitz, CSIRO, Division of Entomology, P.O. Box 1700, Canberra, ACT 2601, Australia.

Eds. note: We use DELTA in preparing taxonomic papers.

COMMELINEWS

Volume 1, number 1, May-June 1987

Emphasis is placed on collecting work in Africa with special notes on field recognition of taxa, notes for record books, etc. Available from: Dr. Robert B. Faden, Department of Botany, Smithsonian Institution, Washington, D.C. 20560 USA.

CYPERACEAE NEWSLETTER

Undesignated 1, July 1987

"Dedicated to news items of the world of cyperology." Editors expect to publish twice a year and ask for U.S. \$6.00 or 259 Belgian francs to cover publication and distribution costs. Reports are presented by genus and by floristic regions. There are also columns on exchange lists and recent publications. Editors: Dr. P. Goetghebeur, Leerstoel voor Morfologie Systematiek en oecologie van de Planten, Ledeganchstraat, 35, 9000 Gent, Belgium, and Dr. David Simpson, The Herbarium, Kew, Richmond, Surrey TW9 3AB, Great Britain.

INTERNATIONAL ORGANIZATION OF PLANT BIOSYSTEMATISTS (IOPB)

by William E. Grant

The title of the IOPB-1989 Symposium is *Biological Approaches and Evolutionary Trends in Plants*. Subtitles include: *The Biology and Evolution of Weeds*, *Molecular Approaches in Plant Biosystematics*, *Population Biology and Life History Evolution*, Session 1. *Reproductive Biology*, Session 2. *Demography and Life History Evolution of Plants*. To obtain preliminary

announcement of the Symposium, or to present a poster, write to the Chairman of the Symposium, Dr. Shoichi Kawano, Department of Biology, Faculty of Science, Kyoto University, Kyoto 606, Japan.

Matters concerning IOPB should be addressed to the President, Dr. Krystyna Urbanska, Geobotanische Institut, E.T.H., Zurichbergstrasse 38, CH-8044, Zurich, Switzerland.

Membership in IOPB, for the period 1987-89, is U.S. \$20.00 payable to IOPB and sent to Dr. Liv Borgen, Secretary-Treasurer, IOPB, Botanical Garden and Museum, Trondheimsveien 23B, 0562, Oslo 5, Norway.

Items of interest to biosystematists on an international level may be sent for publication in the *IOPB Newsletter*. The editor is Dr. Krystyna Urbanska at the address above.

ETNOBOTANICA-92

A congress of ethnobotany, Etnobotánica-92, will be held at the Jardín Botánica de Córdoba, Spain, in 1992. The congress will focus on the importance of the discovery of the New World and the resulting interchange of plant species which led to profound changes in both Old World and New World societies. The final program of the congress has not been established, so they are still open to suggestions and ideas which can widen its scope. The following topics are now being considered for inclusion in the congress program: Transport, how, why, with whom and where did plants arrive; ethnobotany in America; ethnobotany in Europe; acclimation and botanic gardens, their role in exchange and introduction of species; sociological changes caused by the mutual discovery, changes in food, ethnological, etc. habits; wild flora and unexplored genetic resources; the influence of religious orders and missionaries on the ethnobotanical and cultural exchanges; how American Indian technology was applied to new plant resources; negative results of the floristic exchange between the two continents, the spread of weeds; and species of wide monographic interest, potato, tobacco, corn, vines, etc.

To receive the second circular, send your name and address to: Etnobotánica-92, Jardín Botánico de Córdoba, Apdo. 3.029, 14080-Córdoba, Spain.

ADDITIONS AND CORRECTIONS TO NOVEMBER 1987 DIRECTORY

Eds. note: Please make the additions and changes in your copy of the Directory

New Readers

Chappill, Ms. Jenny
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 CICER
 DUNBARIA
 FLEMINGIA
 PUERARIA

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 DIMORPHANDRA (GUIANA-VENEZUELA)
 CYNOMETRA (GUIANA-VENEZUELA)

NODULATION AND NITROGEN FIXATION

A New Column

At the International Legume Database and Information Service (ILDIS) meeting on January 8 and 9, 1987, Royal Botanic Gardens, Kew, a proposal was made on behalf of KIRKBRIDE to include nodulation data in the database. His proposal was relatively simple and modest. A single one-character field would be added to each accepted taxon in the database with one to many citations linked to the field. The field would have four states: 1) Blank - no report of nodulation known for the taxon; 2) Y - nodulation reported for the taxon; 3) N - taxon reported as non-nodulating; and 4) C - conflicting reports for the taxon, at least one positive and one negative report. The proposal was accepted, and KIRKBRIDE is now waiting arrival of the proper software from ILDIS to begin entering data.

KIRKBRIDE envisions three phases in the data entry: 1) Entry of the nodulation reports summarized in *The Leguminosae, A Source Book of Characteristics, Uses, and Nodulation* by O. N. Allen and Ethel K. Allen, 1981, University of Wisconsin Press, Madison, Wisconsin. Permission to extract the nodulation data from the Allens' book and put it into the ILDIS database has been obtained from Mrs. Allen and the University of Wisconsin Press. Each data entry will be referenced to Allen and Allen, 1981. 2) Entry of nodulation reports not included in Allen and Allen, 1981. This would entail a survey of the literature, and KIRKBRIDE hopes that all researchers dealing with nodulation will notify him of any nodulation reports, positive, negative, or conflicting, not in Allen and Allen, 1981. 3) Verification of all reports in Allen and Allen, 1981, and a continuing entry of new nodulation reports as they are made. Phase 1 of data entry should be completed by mid-1989, phase 2 by the end of 1989, and phase 3 will be an on going process.

KIRKBRIDE requests that all scientists recording observations and data on nodulation of the Leguminosae send him new reports not known to Allen and Allen, 1981. New reports will be listed in this column and attributed to their source.

GLEANINGS

ALBUQUERQUE (new address) completed doctoral dissertation treating germination and identification of 50 species of Amazonian seeds. About one half of the studied species were legumes. He is continuing the study emphasizing mainly legume weed seeds. Offers information about Amazonian seeds.

BARETTA-KUIPERS (new address) notes that the *Flora of the Guianas* is seeking legume specialists. BROUGHTON (new Reader) is doing mutation breeding of *Psophocarpus tetragonolobus* with Drs. C. H. Wong and A. Zainal of the Science University of Malaysia, Pulau, Pinang, Malaysia. Needs *P. tetragonolobus* seeds of diverse origins, cultivars, etc., and offers other *P. tetragonolobus* seeds.

CLEMONS (new address) is starting a study of nitrogen fixation of *Vigna*, *Phaseolus vulgaris*, etc. CORBY needs a few seeds of *Dioclea violacea* Mart. ex Benth. Eds. note: Thank you.

DORADO (new Reader) has started a monographic study of *Brongniartia* and a floristic study of the Fabaceae of the Tehuacan Valley, Mexico. Needs seeds and specimens of *Brongniartia*, especially of South America, and offers to determine *Brongniartia* and Fabaceae from the Tehuacan Valley, Mexico.

DUNCAN has had a new flora published (see Literature column), an in press book, *Trees of Southeastern United States*, with 288 color plates, and another about 85% completed, *Shrubs of Southeastern United States*, with 410 color plates.

FORTUNE-HOPKINS (new address) needs relevant legume reprints for University of Papua New Guinea Herbarium Library. Wants to thank those who have sent reprints.

GUNN has finished editing the keys for his typescript of Caesalpinoideae seed-fruit morphology. Reviewers can expect to receive completed typescript in June or July.

HARDER (new address) is working with *Psophocarpus* and offers seeds of *P. scandens* and *P. palustris*.

HERNANDEZ (new address) has started four projects: Systematics of *Calliandra* ser. *Racemosa* Benth., *Calliandra* and *Zapoteca* for *Flora de Oaxaca*, for *Flora de Nicaragua*, and for *Flora Mesoamericana*, and needs viable seeds and fixed flowers for morphological study. Offers collections of legumes from Mexico and identifications of *Calliandra* and *Zapoteca*.

HUGHES offers seeds of woody legumes from Central America and Mexico: *Albizia*, *Gliricidia*, *Leucaena*, *Parkinsonia*, etc.

HUSAINI is starting cyto-morphological studies of legumes of northern Nigeria. Needs reprints on cytology of legumes and offers seeds of *Crotalaria* species.

KARATELA is studying root nodulation.

KINGSLOVER is studying the biosystematics of the genus *Merobruchus* of North America and the West Indies. It is associated with *Acacia*, *Lysiloma*, *Leucaena*, *Pithecellobium*, *Albizia*, and *Pseudosamanea*.

LARSEN (Kai and Supee) are revising *Bauhinia* for *Flora Madagascar*. Offer to identify all paleotropical *Bauhinia*, s.l., species.

LUCKOW (new address) needs seeds of *Dichstachys*. Offers seeds of most species of *Desmanthus* in US, Mexico, and South America, *Lysiloma tergemina*, *Acacia cochleacantha*, *A. constricta*, *A. farnesiana*, *A. macrantha*, *Neptunia plena*, *N. pubescens*, *Mimosa pellita*, and *M. asperata*.

MONCUR (new address) is studying the breeding systems of *Acacia mearnsii*.

MOSJIDES (new Reader) is studying *Lespedeza cuneata*: 1) Seedling vigor and growth as affected by genotype, day length, and temperature during the year of establishment; 2) Pollination, flower structure, and seed production; 3) Location, accumulation, and nature of phenolic compounds; 4) Palatability in relation to phenolics; 5) Stand persistence and vigor with continuous defoliation. The cultivar low in phenolics, *AU Donnelly*, was released in 1987. It is being characterized for plant variety protection. In *Vicia sativa* L. studying: 1) Effect of seed mass, embryo axis size, and planting on seed germination and seedling emergence and vigor; 2) Screening germplasm for cold tolerance; 3) Screening germplasm for N production.

NEILL has in press a paper entitled, *Experimental studies on species relationships in Erythrina (Leguminosae: Papilionoideae)*. Working on a flora of the trees of lowland Amazonian Ecuador (including legumes) with Walter Palacios, an Ecuadorian forester. Publication is targeted for late 1989. Offers herbarium material for taxonomic specialists, plus seed for propagation, of woody legumes from eastern Ecuador. Will attempt to fill any special requests for legume material from this region.

OKOLO needs pollen of legume crops and offers Nigerian legume material.

SAID (new Reader) is studying symbiotic nitrogen fixation of Fabaceae indigenous to Algeria.

Needs reprints about legume and *Rhizobium* taxonomy, symbiotic nitrogen fixation, and seeds of Fabaceae. Offers strains of indigenous rhizobia.

SAUFFERER and GUNN have determined which genera of Faboideae are lacking for their study of Faboideae seed-fruit morphology. A seed-fruit want list is issued as a supplement to this BB.

SILVA (new address) is studying *Dimorphandra*, *Peltogyne*, and *Cynometra* of Guiana-Venezuela and listing the legumes of Amazonian Brazil. Needs publications, original descriptions, and type photographs of Brazilian legumes and offers publications. Has in press "Germinação natural de 10 leguminosas arbóreas da Amazônia - I," *Acta Amazonica*.

STANKEVICZ has in press a paper dealing with the priority of *Vicia abbreviata* Fischer over *V. truncatula* Fischer and is studying the classification and evolution of cultivated species of *Glycine*, *Lupinus*, and *Trifolium* for *Flora of Cultivated Plants of USSR*. Needs reprints and offers reprints.

STUCKY is studying genetic variation (isozymes) in *Sesbania*, *Glottidium vesicarium*, and *Cassia obtusifolia* of southeastern United States. Needs viable seeds of *Sesbania punicea*, *S. drummondii*, and *S. virgata* from the Gulf of Mexico coastal plain. Offers viable seeds of *Sesbania exaltata* and *Glottidium vesicarium* and *Cassia obtusifolia* from North and South Carolina.

TUCKER has started three projects: 1) floral development in *Pisum sativum*, *Ateleia herbert-smithii*, and *Psoralea pinnata*; 2) dioecy in *Bauhinia* resulting from organ suppression; 3) organ loss in caesalpinioid flowers. Needs *Tamarindus*, *Ceratonia*, other caesalpinioids, and members of Sophoreae and Swartzieae: floral buds of all sizes including very young inflorescences preserved in liquid fixative such as FAA.

ULIBARRI continues his study on *Caesalpinia*, *Hoffmannseggia*, and *Adesmia* (South America) and needs specimens and seeds of these genera. Offers duplicates and information of Leguminosae-Caesalpinoideae of Argentina.

VAN DER MAESEN continues to revise *Dunbaria* and *Flemingia*. Needs material of these genera and offers herbarium specimens from Africa.

VIJAY KUMAR needs herbarium specimens of *Atylosia*, *Milletia*, and *Mundulea*.

VIJAYALAKSHMI needs seeds of *Psophocarpus palustris*, and offers seeds of *P. tetragonolobus*.

WAINES (new Reader) is studying the interspecific hybridization between *Phaseolus acutifolius* and *P. vulgaris*, breeding for drought resistance in *P. vulgaris*, and evaluation of *P. acutifolius* var. *latifolius* germplasm. Offers *P. acutifolius* var. *latifolius* germplasm.

YOUNGJAE needs flower materials of *Neoharmsia* from western and northeastern Madagascar and *Salweenia* from Tibet. Offers Korean fabaceous specimens including *Echinosophora koreensis*.

RECENT LEGUME LITERATURE

Eds. Note: Author names in all capital letters are BB Readers. Their full names and addresses are listed in the November 1987 BB Directory and in Additions and Corrections to November 1987 Directory in this issue. Correspondence about these articles should be sent directly to them.

Anuradha, S. M. J., VIJAY KUMAR, RADHAKISHNAAIAH, and L. L. Narayana. 1987. Chemosystematics of some species of *Indigofera*. Proc. Indian Acad. Sci. 97: 443-447.

Baik Mun-Chan, Hoang DHo-Dzun, and K. Hammer. 1986. A check-list of the Korean cultivated plants. *Kulturpflanze* 34: 69-144. Many legumes.

Brimer, L., J. E. Ebinger, SEIGLER and VASSAL. 1987. Cyanogenesis in *Acacia cochliacantha* (Fabaceae, Mimosoideae). *Bull. of International Group for study of Mimosoideae* 15: 88-99.

Brownlee, E. A. 1987. Mesquite: Recent research. 1979-May 1987. Quick Bibliography Series - National Agricultural Library (U.S.), 23 pp., Beltsville, Maryland 20705 USA.

Bulletin of the International Group for the Study of Mimosoideae. 1987. Number 15, 139 pp.

Costanza, S. H. and HYMOWITZ. 1987. Adventitious roots in *Glycine* subgenus *Glycine*: Morphological and taxonomic indicators of the "B" genome. *Plant Systematics and Evolution* 158: 37-46.

CRISP and P. H. Weston. 1987. Cladistics and legume systematics, with an analysis of the Bossiaeae, Brongniartieae and Mirbeliaeae. In: STIRTON, ed., *Advances in Legume Systematics* 3: 65-130. Royal Botanic Gardens, Kew.

Custódio Fº, A. and MANTOVANI. 1986. Flora fanerogâmica da Reserva do Parque Estadual das Fontes do Ipiranga (São Paulo, Brasil). 81 -Leguminosae. *Hoehnea*, São Paulo, 13: 113-40.

Dave, Y. S. and A. R. S. Menon. 1987. Structure, origin, and development of the extra floral nectaries of *Pithecellobium dulce* Benth. (Mimosaceae). *Acta Bot. Hung.* 33(1-2): 117-124.

DELGADO. 1987. Another approach to the domestication of *Phaseolus*. In: L. Manzanilla, ed., *The V Gordon Childe Colloquim Studies on the Neolithic and the Urban Revolution*. British Archaeological Reports, Oxford, pp. 153-160.

DELGADO. 1988. Variation, taxonomy, domestication and germplasm potentialities of *Phaseolus coccineus* L. In: P. Gepts, ed., *Genetic Resources, Domestication and Evolution of Phaseolus beans*. Martius Nijhoff/Dr. Junk, the Netherlands.

DELGADO, BONET, and P. Gepts. 1988. The wild ancestor of *Phaseolus vulgaris* L. in Middle America. In: P. Gepts, ed., *Genetic Resources, Domestication and Evolution of Phaseolus beans*. Martius Nijhoff/Dr. Junk, the Netherlands.

DORADO (new Reader). 1987. *Brongniartia sousae* (Fabaceae: Faboideae), a new species from the Isthmus of Tehuantepec, Oaxaca, Mexico. *Aliso* 11: 631-634.

DOYLE. 1987. Variation at the DNA level: Uses and potential in legume systematics. In: STIRTON, ed., *Advances in Legume Systematics* 3: 1-30. Royal Botanic Gardens, Kew.

DUNCAN and M. B. Duncan. 1987. *The Smithsonian Guide to Seaside Plants of the Gulf and Atlantic Coasts*. 400 pp. Smithsonian Institution Press Book, Department 900, Blue Ridge Summit, Pennsylvania 17214 USA. Cloth: ISBN 386-9 \$46.75; paper: ISBN 387-7 \$31.70. 594 color photographs, 189 black & white illustrations, 6 x 9 inches. *Flora of the coast from Massachusetts to Louisiana, exclusive of lower Peninsular Florida*.

Dy Phon, P. 1987. Morphologie et Phylogénie du genre *Uraria* (Leg. Papil.). Doctoral Thesis University of Paris VI, 2 vols. Vol. 1: numerical taxonomy, 282 pp. (photocopy), drawings, graphs, tables - Vol. 2: descriptions, keys, geographic distributions, 121 pp. (photocopy), drawings, maps, 34 photo plates (anatomy, palynology, seminology).

Ebinger, J. E. and SEIGLER. 1987. Introgressive hybridization in Mexican populations of *Acacia macracantha* and *Acacia pennatula* (Fabaceae, Mimosoideae). Bull. of the International Group for the study of Mimosoideae 15: 73-85.

FERGUSON. 1987. A preliminary survey of the pollen exine stratification in the Caesalpinoideae. In: STIRTON, ed., Advances in Legume Systematics 3: 355-385. Royal Botanic Gardens, Kew.

Gibbs, P. E. and FERGUSON. 1987. Correlations between pollen exine sculpturing and angiosperm self-incompatibility systems - a reply. Pl. Syst. Evol. 157: 143-159. Examples from Bauhinia, Caesalpinia, Calliandra, Dioclea, Swartzia, and Erythrina.

Greuter, W. 1987. *Onobrychis aliacmonia* (Leguminosae) -- The unusual story of a rediscovery. Pl. Syst. Evol. 155(1/4): 215-217.

Hanson, A. A. et al., eds. 1987. Alfalfa and alfalfa improvement, Agronomy Monograph Number 29. 1,110 pp. American Society of Agronomy. Attn.: Book Order Department, 677 South Segoe Road, Madison, Wisconsin 53711 USA. ISBN 0-89118-094-X. \$66.75.

Horvat, F. and STAINER. 1987. L'étude de l'exine dans le complexe *Phaseolus-Vigna* et dans des genres apparentés. VI. *Physostigma cylindrospermum* (Baker) Holmes et *Physostigma mesoponticum* Taubert. Pollen et Spores 29(1): 21-29.

HERNANDEZ (new address). 1986. *Zapoteca*: A new genus of neotropical Leguminosae. Ann. Missouri Bot. Gard. 73: 755-763.

HERNANDEZ (new address). 1986. Proposal to amend the conservation of 3444 *Calliandra* (Leguminosae: Mimosoideae). Taxon 35: 747-748.

HERNANDEZ (new address). 1987. Systematics of the genus *Zapoteca* (Leguminosae: Mimosoideae). Ph.D. Dissertation, Saint Louis University, Saint Louis, Missouri.

HYMOWITZ and R. J. Singh. 1987. Taxonomy and speciation. In: J. R. Wilcox, ed., Soybeans: Improvement, production, and uses. pp. 23-48. Second edition. American Society of Agronomy, Madison, Wisconsin.

Jarvie, J. K. and STIRTON. 1987. The *Indigofera filifolia* complex (Fabaceae) in southern Africa. Bothalia 17(1): 1-6.

Kay, Q. O. N. 1987. Ultraviolet patterning and ultraviolet-absorbing pigments in flowers of the Leguminosae. In: STIRTON, ed., Advances in Legume Systematics 3: 317-353. Royal Botanic Gardens, Kew.

Kenrick, J., P. Bernhardt, R. Marginson, G. Beresford, R. B. Knox, I. Baker, and H. G. Baker. 1987. Pollination related characteristics in the mimosoid legume *Acacia terminalis* (Leguminosae). Pl. Syst. Evol. 157(1-2): 49-62.

KINGSOLVER. 1986. A taxonomic study of the genus *Algarobius* (Coleoptera: Bruchidae). *Entomology* 4: 109-136. This genus is host restricted to Prosopis in SW United States, Mexico, Central America, Colombia, and Venezuela. Larva feed in seeds.

KOPTUR and J. H. Lawton. 1988. Interactions among vetches bearing extrafloral nectaries, their biotic protective agents, and herbivores. *Ecology* 69(1): 278-283.

LAVIN. 1987. A cladistic analysis of the tribe Robinieae (Papilionoideae, Leguminosae). In: STIRTON, ed., *Advances in Legume Systematics* 3: 31-64. Royal Botanic Gardens, Kew.

LIMA. 1982. Taxonomic revision of the genus *Vatairea* Aublet (Leguminosae, Faboideae). *Arq. Jard. Bot. Rio de Janeiro* 26: 173-214.

LUCKOW and C. D. Johnson. 1987. New host records of Bruchidae (Coleoptera) from *Desmanthus* (Leguminosae) from Texas and Mexico. *Pan Pacific Entomologist* 63(1): 48-49.

MANTOVANI, A. Custódio F^º, and J. S. Tamashiro. 1987. Leguminosae. In: A. M. Giulietti, et al., eds., *Flora da Serra do Cipó, MG: Caracterização e listas das espécies*. Bolm. Bot. Univ. São Paulo 9: 56-64.

MASLIN. 1987. Flora of Australia Project: *Acacia*. Bull. of the International Group for the study of Mimosoideae 15: 121-122.

MASLIN and HNATIUK. 1987. Aspects of the phytogeography of *Acacia* in Australia. In: STIRTON, ed., *Advances in Legume Systematics* 3: 443-447. Royal Botanic Gardens, Kew.

NEILL. 1987. Trapliners in the trees: Hummingbird pollination of *Erythrina* sect. *Erythrina* (Leguminosae: Papilionoideae). *Ann. Missouri Bot. Gard.* 74: 27-41. Mostly about pollination ecology; has some information bearing on taxonomy.

Nguyễn Van Thuân, P. Dy Phon, and NIYOMDHAM (with Y. Y. Vidal's collaboration). 1987. Leguminosae-Papilionoideae. In: *Flore du Cambodge, Laos, Viêtnam* 23: 1-258, 42 pl. draw. All genera are revised except those of the Phaseoleae already published, *Dalbergieae*, *Tephrosiaeae*, and Desmodium.

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